DACOM West

Deltron ELEKTRONISCHE SYSTEME GMBH

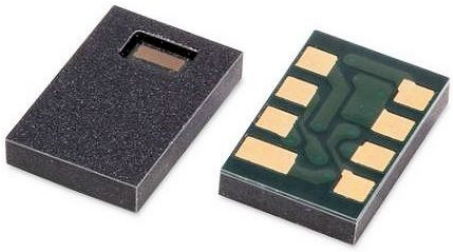
Humidity & Temperature Solution
DEL_EVB-HUMI 1/2

HumiChip® offers the most advanced and cost effective humidity and temperature sensing solution for virtually any type of applications. HumiChip 2/HCP2D-3V is an improved version of HumiChip®.

A capacitive polymer sensor chip developed and fabricated in-house and CMOS integrated circuit with EEPROM are integrated into one embedded system in a reflow solder-able SMD package.
Individually calibrated and tested, HumiChip® performs ±2% from 20% to 80%RH (±3% over entire humidity range), and yet, is simple and ready to use without further calibration or temperature compensation.
HumiChip® provides linear output signals in various interfaces to customer requirements - the standard I²C interface, PDM convertible to analog signal, and an Alarm function for preset control at min/max humidity. HumiChip® is AEC-Q100 standard qualified.
Designed and manufactured by industry leading humidity and temperature sensing technology of SAMYOUNG S&C – field proven in HVAC and Auto industry for over 10 years, HumiChip® offers another sensible sensing solution for excellent reliability, high accuracy, and cost effective sensing applications.

General Features and Advantages

- Fully Calibrated & Temperature Compensated
- Operating Voltage: 2.3V to 5.5V (HumiChip®)
- *Operating Voltage: 2.1V to 3.6V (HumiChip2)*
- Digital/I²C or Analog Output with Alarm Function (HumiChip®)
- *I²C with Alarm Function (HumiChip2)*
- Low Current Consumption: 750µA for HumiChip®
- *Extreme Low Current Consumption: 13µA for HumiChip2*
- Factory programmable device
- AEC-Q100 standard qualified (HumiChip®)
- SMD Package for Automated Assembly



HumiChip® Humidity (RH%)

- Resolution: 14 bit (0.01%RH)
- Accuracy: ±2.0 % RH (20 ~ 80% RH)
- Repeatability: ±0.2 % RH
- Hysteresis: ±2.0 % RH
- Linearity: <2.0 % RH
- Response time: 7.0 sec (t 63%)
- Operating range: 0 ~ 100 % RH (Non-Condensing)
- Long term drift: <0.5 % RH/yr (Normal condition)

HumiChip2 Humidity (RH%)

- Resolution: 14 bit (0.01% RH)
- Accuracy: ±2.0 %RH (20 ~ 80% RH)
- Repeatability: ±0.2 % RH
- *Hysteresis: ±1.5 % RH*
- Linearity: <2.0 % RH
- *Response time: 8.0 sec (t 63%)*
- Operating range: 0 ~ 100 % RH (Non-Condensing)
- Long term drift: <0.5 % RH/yr (Normal condition)

HumiChip® Temperature (°C)

- Resolution: 14 bit (0.01% RH)
- Accuracy: ±0.3 % (20 ~ 40°C))
- Repeatability: ±0.1 °C
- Response time: 5.0 sec (t 63%)
- Operating range: -40 ~ 125°C
- Long term drift: <0.05 °C/yr (Normal condition)

HumiChip2 Temperature (°C)

- Resolution: 14 bit (0.01% RH)
- *Accuracy: ±0.2 % (-20 ~ 60°C)*
- Repeatability: ±0.1 °C
- *Response time: 10.0 sec (t 63%)*
- Operating range: -40 ~ 125°C
- Long term drift: <0.05 °C/yr (Normal condition)

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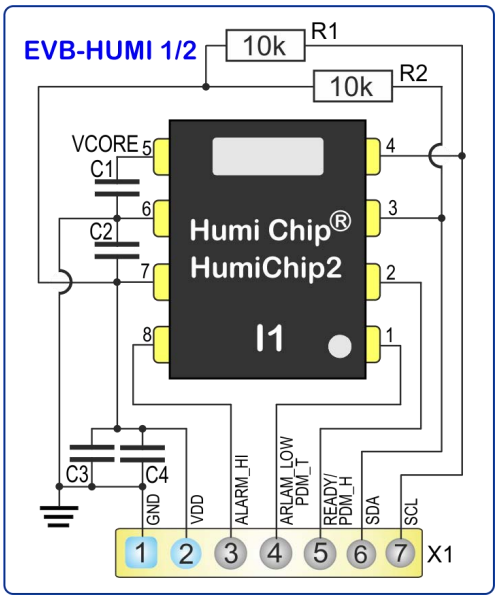
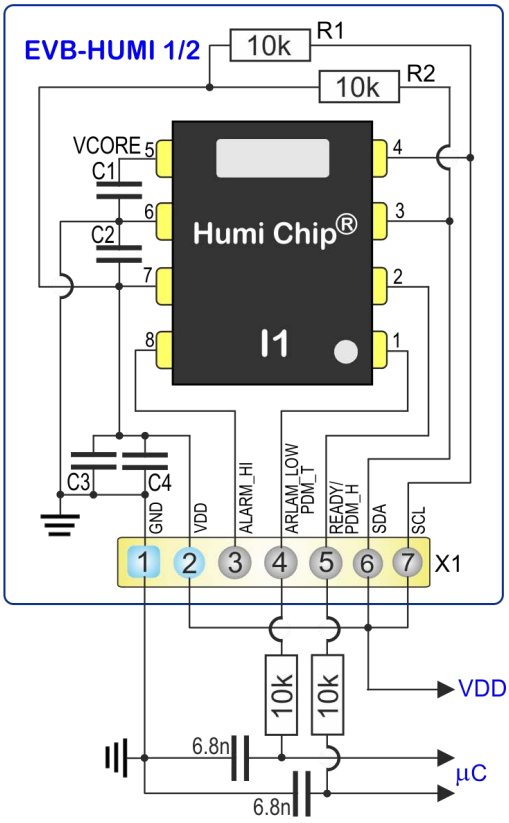
Typical Application Circuits

Digital Output / I2C



Analog Output / PWM



Applications

- Energy Saving HVAC Control
- Process Control & Instrumentation
- Mass Quantity Application
- Automobile & Transportation

EVB for Humidity & Temperature Solution

- Board size: 20.32 x 12.7mm^2
- Interface Connector

Technical and applicatory support

- The OEM module can be integrated in customer applications with minimum expenditure of time
- Hard– and Software- support possible

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